

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

18 JUL 1988

Mr. Joseph M. Pavelich  
Chairman, Minnesota Waste  
Management Board  
1350 Energy Lane  
St. Paul, Minnesota 55108

Dear Mr. Pavelich:

This is in response to your June 22, 1988 memorandum to the Environmental Protection Agency's (EPA's) Administrator, Lee Thomas, in which you presented certain reasons why waste tires should be given an exemption from EPA's requirements for prevention of significant deterioration (PSD).

On June 7, 1988, my staff responded to an inquiry from EPA's Region V office concerning this same issue. In that response, we stated our position that the use of tire-derived fuel (TDF) as an alternative fuel does not qualify for a PSD exemption under subparagraph (b)(2)(iii)(d) of 40 CFR 52.21. Since you may not already be aware of that determination, I have enclosed a copy of the June 7, 1988 memorandum as well as the incoming memorandum from the Regional Office.

I support the position stated in EPA's enclosed response and believe that we would be establishing an inappropriate precedent if we were to open the PSD exemption for alternate fuel utilization to specialized fuels, such as TDF, which are merely a single, potential component of the municipal solid waste bulk. To allow the use of the alternative fuel exemption under PSD for TDF would open the door to many other similar requests without the benefit of an environmental analysis and installation of appropriate controls where needed.

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I appreciate your concern and hope that you can understand our position on this issue. In the event that you desire to meet with EPA representatives to pursue any further concerns that you might have, I would

invite you to notify me at your convenience in writing or by calling (919) 541-5615.

Sincerely,

Gerald A. Emison  
Director  
Office of Air Quality Planning  
and Standards

2 Enclosures

cc: Steve Rothblatt, EPA Region V  
John Calcagni, OAQPS/AQMD  
Jack Farmer, OAQPS/ESD  
Truette DeGeare, OSW  
Edward Lillis, OAQPS/AQMD  
Dan deRoeck, OAQPS/AQMD

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

JUN 7 1988

MEMORANDUM

SUBJECT: Response to Request for Prevention of Significant  
Deterioration (PSD) Applicability Determination

FROM: John Calcagni, Director  
Air Quality Management Division (MD-15)

TO: David Kee, Director  
Air and Radiation Division (5AR-26)

I have reviewed your memorandum of May 2, 1988 concerning the issue of whether use of tire-derived fuel (TDF) at existing steam generating facilities should be classified as an alternative fuel generated from municipal solid waste. My conclusion supports your preliminary determination

that TDF does not, by itself, constitute municipal solid waste in accordance with the definition contained in paragraph (b) of 40 CFR 60.51. I also do not consider TDF to be "generated from" municipal solid waste within the context of the PSD exemption for major modifications. Consequently, the use of TDF as an alternative fuel would not qualify for a PSD exemption under subparagraph (b)(2)(iii)(d) of 40 CFR 52.21.

My staff has reviewed the brief yet pertinent language contained in two Federal Register preambles which leads us to conclude that the intent in establishing the subject exemption was to address fuel consisting of either the total collected mixture of municipal type waste, i.e., municipal solid waste, or the bulk of such mixture excluding the noncombustible waste fraction, i.e., refuse derived fuel. The PSD exemption is explained briefly in the preamble to the 1980 PSD amendments as applying to "fuel derived in whole or in part from municipal solid waste" [45 FR 52698, August 7, 1980]. The concept of "derived in whole" appears to refer to a fuel prepared from the complete content of municipal solid waste. However, the meaning of "derived . . . in part" is not as apparent.

We have also relied on the preamble discussion of the same exemption contained in the 1979 Emission Offset Interpretative Ruling. In that preamble, the Environmental Protection Agency (EPA) refers to the use of 11 municipal solid waste (including refuse derived fuel . . .)" [44 FR 3278, January 6, 1979]. Taken together, these brief explanations strongly suggest

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that EPA's concern is for the alternative use of municipal solid waste which has already been collected, and not any particular individual component which might be utilized as a fuel by itself. Since nearly everything can be found in municipal waste from used oil to plastics to pesticides, the argument that any combustible material found in municipal waste should qualify for this exemption when recovered and burned alone is somewhat unrealistic.

Therefore, the use of a particular material as an alternate fuel, even if it is found in municipal solid waste, does not qualify for the PSD exemption and should be reviewed to determine whether an increase in actual emissions would result. In the event that such alternative fuel would result in a significant net emissions increase, then its use should be reviewed as a major modification.

Should you have any further questions or comments concerning this determination, please contact Dan deRoeck at FTS 629-5593.

cc: E. Lillis

New Source Review Contacts  
Air Branch Chiefs, Regions I-X

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V

DATE: 02 MAY 1988

SUBJECT: Request for PSD Applicability Determination

FROM: David Kee, Director  
Air and Radiation Division (5AR-26)

TO: John Calcagni, Director  
Division of Air Quality Management

We have received an inquiry regarding the applicability of Prevention of Significant Deterioration (PSD) regulations to steam generating facilities burning tire-derived fuel (TDF) as an alternative fuel.

More specifically, the question is whether or not the provision of 40 CFR Part 52.21 which exempts the "use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste" would apply to the firing of TDF.

The attached incoming letter expands on this basic question, in addition to presenting arguments in favor of applying the exemption to TDF firing. Our preliminary determination is that TDF is not "solid waste" as that term is defined in Subpart E of 40 CFR Part 60. However we are uncertain as to how to interpret the words "generated from" in the PSD exemption.

We would appreciate your review of the attached letter and your guidance on the questions presented.

Attachment

1350 ENERGY LANE  
ST. PAUL, MINNESOTA 55108  
METRO AREA (612) 649-5750  
MN TOLL FREE 1-800-652-9747

June 22, 1988

Lee Thomas, Administrator  
U.S. Environmental Protection Agency  
410 M Street SW  
Washington, DC 20460

Dear Mr. Thomas,

It is our understanding that the Environmental Protection Agency (EPA) is considering a request to define waste tires as a "municipal solid waste" under Prevention of Significant Deterioration (PSD) for proposed air quality permit modifications. The following is a comment in support of a request made to the Environmental Protection Agency (EPA), Region 5 that waste tires be defined as a "municipal solid waste" under PSD requirements (see attached request). The attached request dated March 29, 1988 was forwarded to the EPA headquarters in Washington, DC. The request made by Waste Recovery, Inc. was the direct result of a waste tire test burn conducted at the Champion International facility located in Sartell, Minnesota. The State of Minnesota funded the test burn in an effort to develop a Minnesota market for the tire-derived fuel (TDF) product produced by Waste Recovery or other similar waste tire processing facilities. It is the State of Minnesota's understanding that an exemption for PSD permit requirements would be given to waste tires, if waste tires were defined as a "municipal solid waste".

The attached letter outlines the reasons why waste tires should be given an exemption from EPA requirements for PSD. The letter states that "municipal solid waste" as defined under the PSD section of 40 CFR does not clearly identify waste tires as being part of the municipal solid waste stream. However, a commonly used definition of municipal solid waste is found in 40 CFR 60.41b, which does include waste tires as a municipal solid waste. Waste Recovery, Inc. further requests that EPA define waste tires as a "municipal solid waste", thereby giving waste tires an exemption from the additional permit modification requirements under PSD.

The waste tire problem is one of the nation's growing solid waste problems. The State of Minnesota has aggressively addressed this problem. The potential TDF markets at the Champion facility and other similar

Minnesota facilities are an important steps towards the development of adequate markets for Minnesota. Markets which are needed to alleviate the problems associated with unprocessed waste tires. Therefore, the State of Minnesota strongly encourages the inclusion of waste tires in the definition for "municipal solid waste", thereby exempting waste tires from the PSD requirements. WASTE RECOVERY, INC. 8501 N. Bonnowick  
MAKING WASTE A RESOURCE Portland, Oregon 97217  
503/283-2261

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March 29, 1988

RECEIVED  
APR 4 1988  
Mr. Steve Rothblatt  
Chief, Air & Radiation Branch  
EPA - Region 5  
Mail 5AR-26  
230 S. Dearborn  
Chicago, IL 60604  
WASTE MANAGEMENT  
BOARD

Dear Mr. Rothblatt,

At Mr. Bill McDowell's suggestion, I am writing to request a response for three questions. These questions relate to the use of tire derived fuel (TDF) as an alternative fuel at existing steam generating facilities where TDF will either replace a percentage of traditional fuels (i.e. coal, oil, gas and/or wood fuel) or be an addition to existing fuel requirements as is the case when adding TDF to existing and dedicated refuse derived fuel (RDF) steam generating facilities. Whereas, CFR40 Part 52.21 excludes "use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste" from being considered a physical change or change in the method of operation thus relieving regulation under this part. We maintain that TDF is generated from municipal solid waste and thus should fall under this exemption. EPA is apparently unclear so we request clarification on this issue.

#### Background

"Each year about 200,000,000 passenger tires and 40,000,000 truck tires are scrapped. While a limited number of these scrap tires are used as raw-product for the rubber reclaim industries or in other ways, the vast majority go to landfills or dumps." (Source: 200,000,000 tires per year: Options for Resource Recovery and Disposal, 9/7/79, prepared for US EPA# 69-03-2725, by Urban Systems Research Engineering, Inc.)

Mr. Steve Rothblatt

The growing segregation of scrap tires from the municipal waste stream by landfill operators, tire dealers, and consumers ultimately bodes well for Waste Recovery's approach to recycling the scrap tires and reducing a solid waste disposal problem. Waste Recovery processes the scrap tire into a 2" minus rubber chip, removes the bead and most of the radial wire to produce a tire derived fuel (TDF). Our TDF is then sold to existing steam generating facilities as an alternative fuel to replace some percentage of their existing solid fuel requirement. Blend replacements range from 5% - 20% by weight. Blend ranges ultimately are limited by the facility's permit conditions and pollution control efficiencies. For our customers to burn TDF, no changes are made in the steam generating facilities, i.e. steaming design capacity, stokers, grates, air controls, fuel handling systems, pollution control devices, etc. TDF is fed into the boilers via existing handling systems.

Recently, we have developed two TDF test trials, one at Champion International Corp., Sartell, Minnesota and the other at Northern State Power, Mankato and Red Wing, Minnesota where the PSD criteria either have been or could be exceeded, but not the permit conditions, thus requiring PSD review if the facilities were to further consider using TDF as an alternative fuel. I believe the areas are in attainment for criteria pollutants under ambient air quality standards. The Champion facility is a wood and coal cofired steam generating unit. The Northern States Power facilities are existing coal fired steam generating units retrofitted to burn 100% RDF. The Northern States Power facilities currently operate under an exemption from PSD apparently granted via the CFR 40 Part 52.21 clause I've identified in the first paragraph of this letter. At both facilities, Champion and Northern States Power, we are proposing to add TDF within their state air permit limits, somewhere in a range of 3 - 8% by weight. The State of Minnesota is willing to exclude TDF from PSD criteria based on exclusions so identified in CFR 40 Part 52.21 if EPA agrees with such an interpretation. Apparently Minnesota has adopted EPA's PSD rules "verbatim" in their SIP.

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Mr. Steve Rothblatt

Your response in a timely manner will be appreciated since we have several TDF trials in Minnesota hanging in the balance. However, I recognize the implications for a national policy on this issue and I understand that some time may be required for thorough analysis. I am available to meet with either you, your staff or EPA's headquarters for further discussion and

clarification on this issue.

Thank you for your assistance.

Sincerely,

Mark W. Hope  
Marketing & Governmental Affairs Manager

MWH/asd

s:roth

cc: Rich Brown - Congressional District Office

Bill McDowell - EPA - V

Ron Van Mersbergen - EPA - V

Mark Hooper - EPA - X

Ahto Niemioja - MPCA

Dave Bonistal - Champion

Dave Heberling - NSP

Anderson Carothers - WRI

Andrew Ronchak - MWMB

United States Office of the Administrator SAB-EETFC-88-25

Environmental Protection Science Advisory Board April, 1988

Agency Washington, D.C. 20460 Final Report

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Report of the Environmental  
Effects, Transport and Fate  
Committee

Evaluation of Scientific

Issues Related to

Municipal Waste Combustion

Appendix D

## ASTM CLASSIFICATION OF RDFs

CLASS	FORM	DESCRIPTION
RDF-1	Raw	Municipal solid waste with minimal processing to remove oversize bulky waste.
RDF-2	Coarse	MSW processed to coarse particle size with or without ferrous metal separation such that 95% by weight passes through a 6-inch-square mesh screen.
RDF-3	Fluff	Shredded fuel derived from MSW processed for the removal of metal, glass, and other entrained inorganics; particle size of this material is such that 95% by weight passes through a 2-inch-square mesh screen.
RDF-4	Powder	Combustible waste fraction processed into powdered form such that 95% by weight passes through a 10-mesh screen.
RDF-5	Densified	Combustible waste fraction densified (compressed) into pellets, slugs, cubettes, briquettes, or similar forms.
RDF-6	Liquid	Combustible waste fraction processed into a liquid fuel.
RDF-7	Gas	Combustible waste fraction processed into a gaseous fuel.

Source: Hickman, H.L., "Thermal Systems for Conversion of Municipal Solid Waste: Overview," Argonne National Laboratory/CNSV-Tm-120, Volume-1, May 1983.

A measured RDF particle size distributions indicated that 95 percent by weight of the RDF is smaller than 2 inches, and that over 99 percent by weight of the RDF is smaller than 2.5 inches.